

THE CLAIMS

1. An electrical connector for securely engaging and mounting an electrical cable to a receiving box or plate having a receiving hole formed therein, said electrical connector comprising:

A. a housing having

- a. a generally hollow cylindrical shape defined by an outer wall, an inner wall, and first and second terminating ends,
- b. at least one flange mounted about the outer wall of the housing, radially extending outwardly therefrom, and comprising a diameter greater than the diameter of the receiving hole formed in the receiving box/plate, and
- c. a threaded zone formed on the outer surface thereof and extending between the flange and the adjacent first terminating end;

B. an inner sleeve member comprising

- a. a substantially hollow, substantially cylindrical shape, having an inner surface, an outer surface, and two terminating ends, dimensioned for mating, engagement within the inner wall of

the housing to form a substantially integral construction therewith, and

- b. a pair of arm members extending inwardly from the inner surface of the sleeve member and positioned for mating engagement and securement with an electrical cable when inserted therein; and
- c. a locking ring/nut construction for threaded, mounted engagement to the threaded zone of the housing, for securely affixing the housing in a receiving hole of a receiving box or plate;

whereby an electrical connector is achieved which is quickly and easily assembled and securely mounted to any desired box or plate, providing electrical conductivity and grounding.

2. An electrical connector for securely engaging and mounting an electrical cable to a receiving box or plate having a receiving hole formed therein, said electrical connector comprising:

A. a housing having

- a. a generally hollow cylindrical shape defined by an outer wall, an inner wall, and a first and second terminating ends,
- b. at least one flange mounted about the outer wall of the housing, radially extending outwardly therefrom, and comprising a diameter greater than the diameter of the receiving hole formed in the receiving box/plate, and
- c. a threaded zone formed on the outer surface thereof and extending between the flange and the adjacent first terminating end;

B. an inner sleeve member comprising

- a. a substantially hollow, substantially cylindrical shape, having an inner surface, an outer surface, and two terminating ends, dimensioned for mating, engagement within the inner wall of the housing to form a substantially integral construction therewith,

- b. a pair of arm members extending inwardly from the inner surface of the sleeve member and positioned for mating engagement and securement with an electrical cable when inserted therein; and
- c. a locking ring/nut constructed for threaded mounted engagement to the threaded zone of the housing for securely affixing the housing in a receiving hole of a receiving box/plate;

whereby an electrical connector is achieved which is quickly and easily assembled and securely mounted to any desired box or plate, providing secure, mating, locked engagement with an electrical cable mounted therewith.

3. The electrical connector defined in Claim 2, wherein said inner sleeve member is further defined as comprising two pairs of arm members extending inwardly from the inner surface of the sleeve member, with each pair of arm members being in juxtaposed facing relationship to each other.

4. The electrical connector defined in Claim 3, wherein each pair of arm members formed on each opposed side of the sleeve member are in juxtaposed, spaced, cooperating relationship with each other.

5. The electrical connector defined in Claim 3, wherein each of the two pairs of arm members extending inwardly from the inner surface of the sleeve member are each further defined as comprising a first, intermediate, sloping section extending from the sleeve member and a second, sloping, end section extending from the intermediate section at an angle relative thereto, positioned for mating engagement and securement with an electrical cable when inserted therein.

6. The electrical connector defined in Claim 5, wherein said electrical cable comprises a curved outer surface and the end section of each of said arm members is further defined as comprising a curved terminating edge constructed for mating, engaged relationship with the surface of the electrical cable.

7. The electrical connector defined in Claim 5, wherein the intermediate section of each arm member of the inner sleeve member is further defined as comprising different axial lengths, whereby said pair of arm members engage the electrical cable at different axial positions thereof

8. The electrical connector defined in Claim 5, wherein the intermediate section of each arm member of the inner sleeve member is further defined as comprising substantially equivalent axial lengths, whereby said arm members engage the electrical cable at substantially equivalent, diametrically opposed positions.

9. The electrical connector defined in Claim 1, wherein the end section of each arm member is further defined as being bifurcated to create two separate and independent finger members formed therein.

10. The electrical connector defined in Claim 9, wherein each of said separate and independent finger members formed on the end section of each of said arm member comprises different angular relationships relative to the intermediate section.

11. The electrical connector defined in Claim 2, wherein each of said arm members is further defined as comprising side edges formed in juxtaposed, spaced, parallel relationship with each other, and the intermediate section is defined as extending inwardly from the sleeve member along a first bend line defining a first angle relative to the inside surface of the inner sleeve member, and the terminating end section is further defined as sloping inwardly along a second bend line defining a second angle relative to the inside surface of the sleeve member.

12. The electrical connector defined in Claim 11, wherein said second bend line is further defined as being sloped relative to the side edges of each of the arm members.

13. The electrical connector defined in Claim 12, wherein said electrical cable is further defined as comprising a metal sheath cable or conduit having a sloping helical groove formed therein, and the slope of the second bend line is further defined as being formed substantially equivalent to the slope of the helical groove for assuring secure, mating, interengagement of the terminating end section with the surface of the cable.

14. The electrical connector defined in Claim 11, wherein said second bend line is further defined as being substantially perpendicular to the side edges of each of the arm members.

15. The electrical connector defined in Claim 11, wherein said first angle is further defined as ranging between about 15° and 38°.

16. The electrical connector defined in Claim 11, wherein said second angle is further defined as ranging between about 45° and 75°.

17. The electrical cable defined in Claim 1, wherein said inner sleeve member comprises a substantially flat wall portion integrally formed therein and longitudinally extending along substantially the entire surface thereof, for use in positioning the inner sleeve member in the desired orientation in the housing.

18. The electrical cable defined in Claim 1, wherein each of said arm members are further defined as comprising a tab member formed at the juncture between the intermediate section and the sleeve member, with said tab member extending radially outwardly from the inner sleeve member.



19. The electrical cable defined in Claim 18, wherein said housing is further defined as comprising apertures formed therein positioned for cooperative association and engagement with the tab members of the inner sleeve, thereby preventing axial movement of the inner sleeve relative to the housing.

20. The electrical cable defined in Claim 18, wherein said tab member is formed as an integral part of the intermediate section and constructed for extending outwardly from the juncture of the intermediate section with the inner sleeve simultaneously with the movement of the intermediate section arcuately inwardly.